

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 7 (canceled)

8. (currently amended) A plasma processing method using a plasma processing apparatus having:

a process chamber in which a substrate is subjected to a plasma processing;

a light-receiving part for monitoring a plasma emission in the process chamber;

a spectrometer unit for performing a spectrometry on the received plasma emission to convert the same into a multi-channel signal;

an arithmetic unit for converting the multi-channel signal into one or more output signals and performing an arithmetic operation on the output signals;

a database for storing a filter vector;

a determination unit for determining a condition in the process chamber based on a result of the arithmetic operation, wherein the determination of the condition in the process chamber is a determination that an end point of seasoning is reached;
and

an apparatus controller for controlling an operation of the plasma processing apparatus in response to a signal from the determination unit,

the method comprising:

a step of converting the multi-channel signal output from the spectrometer unit into a batch of output signals;

a step of finding differences between the output signals and output signals of a preceding batch; and

a step of determining an average value of the differences in one batch, a difference between a maximum and a minimum of the differences in one batch and a standard deviation of the differences in one batch; and

a step of comparing ~~an~~the average value of the differences in one batch, the difference between ~~a~~the maximum and ~~a~~the minimum of the differences in one batch and ~~a~~the standard deviation of the differences in one batch with a preset threshold.

9. (currently amended) A plasma processing method using a plasma processing apparatus having:

a process chamber in which a substrate is subjected to a plasma processing;

a light-receiving part for monitoring a plasma emission in the process chamber;

a spectrometer unit for performing a spectrometry on the received plasma emission to convert the same into a multi-channel signal;

an arithmetic unit for converting the multi-channel signal into one or more output signals and performing an arithmetic operation on the output signals;

a database for storing a filter vector;

a determination unit for determining a condition in the process chamber based on a result of the arithmetic operation, wherein the determination of the condition in the process chamber is a determination that an end point of seasoning is reached;
and

an apparatus controller for controlling an operation of the plasma processing apparatus in response to a signal from the determination unit,

the method comprising:

a step of performing evacuation after a wet cleaning;

a step of automatically determining whether a degree of vacuum is adequate or not;

a step of automatically determining whether there is an apparatus abnormality or not;

a step of converting the multi-channel signal output from the spectrometer unit into a batch of output signals;

a step of finding differences between the output signals and output signals of a preceding batch; and

a step of determining an average value of the differences in one batch, a difference between a maximum and a minimum of the differences in one batch and a standard deviation of the differences in one batch; and

a step of comparing ~~an~~the average value of the differences in one batch, ~~a~~the difference between ~~a~~the maximum and ~~a~~the minimum of the differences in one batch and ~~a~~the standard deviation of the differences in one batch ~~with a preset threshold; and~~.